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Treatment Standards for Nonwastewater and Wastewater Forms of K044, K045, and K047. Volume 2

Versar, Inc., Springfield, VA

Prepared for:

Environmental Protection Agency, Washington, DC

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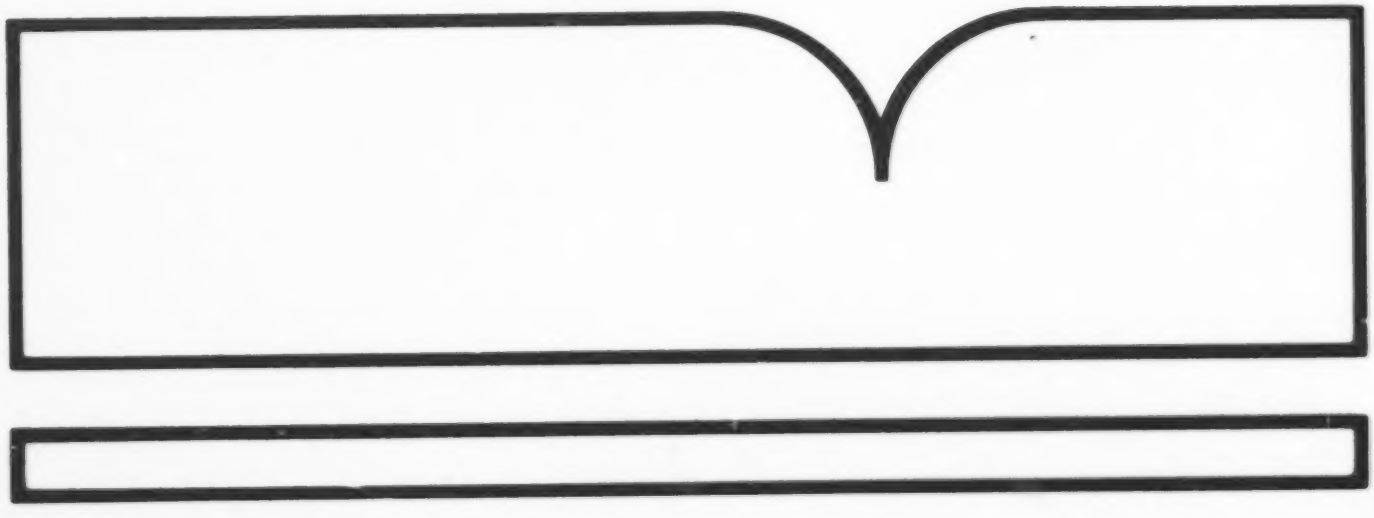

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This background document provides the Agency's technical support and rationale for the development of treatment standards for the constituents to be regulated for the above-mentioned wastes.

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MEMORANDUM

TO: Administrative Record

cc: J. Strauss
S. Schwartz
5254 File

FROM: Jim Berkes

DATE: May 8, 1990

SUBJECT: Final Treatment Standards for Nonwastewater and Wastewater Forms of K044, K045, and K047

This memorandum presents a summary of the technical support and rationale for the development of the treatment standard for nonwastewater and wastewater forms of K044, K045, and K047.

Pursuant to section 3004(m) of the Resource Conservation and Recovery Act (RCRA) as enacted by the Hazardous and Solid Waste Amendments (HSWA) on November 8, 1984, the Environmental Protection Agency (EPA) is establishing best demonstrated available technology (BDAT) treatment standards for the listed wastes identified in 40 CFR 261.32 as K044 (wastewater treatment sludges from the manufacturing and processing of explosives), K045 (spent carbon from the treatment of wastewater containing explosives), and K047 (pink/red water from TNT operations).

Compliance with the treatment standards being promulgated will be a prerequisite for placement of these wastes in units designated as land disposal units according to 40 CFR Part 268. The effective date of these treatment standards will be June 9, 1990.

K044, K045, and K047 wastes are listed as hazardous because of the characteristic of reactivity. The Agency believes that technologies applicable for treatment of these wastes include those that are capable of rendering the waste nonreactive. Commenters indicated that K044, K045, and K047 wastes can be treated by technologies such as chemical oxidation or incineration. Such treatments permanently remove the reactive characteristic of these wastes by thermal or chemical destruction.

In the Second Third final rule (53 FR 31158, August 17, 1988), EPA promulgated a treatment standard of "No Land Disposal Based on Reactivity" for K044, K045, and K047 nonwastewaters and wastewaters. In

today's final rule (Third Third final rule), the Agency is revoking this standard and is promulgating a treatment standard of "Deactivation (DEACT) as a Method of Treatment" for K044, K045, and K047 nonwastewaters and wastewaters. The treatment standard for K044, K045, and K047 wastes is presented in Table 1.

Several commenters had questions on the definition of deactivation. To clarify this point, the Agency is defining deactivation for K044, K045, and K047 wastes to be the process of removing the characteristic of reactivity, by technologies such as incineration or chemical oxidation. See 40 CFR 268 Appendix VI for a list of technologies that used alone or in combination can achieve this standard. See also 40 CFR 268.42 Table 1 for a description of the technologies referred to by a five letter technology code in parentheses. This standard should provide the treaters of K044, K045, and K047 wastes the ability to use the "best" treatment technology based on the chemical and physical parameters of the waste, and any safety considerations.

The BDAT program and EPA's promulgated methodology are more thoroughly described in two additional documents: Methodology for Developing BDAT Treatment Standards (USEPA 1988) and Generic Quality Assurance Project Plan for Land Disposal Restrictions Programs (BDAT) (USEPA 1987). The petition process to be followed in requesting a variance from the BDAT treatment standards is discussed in the methodology document. Additional information on reactive wastes can be found in the BDAT Background Document for Characteristic Ignitable Wastes (D001), Characteristic Corrosive Wastes (D002), Characteristic Reactive Wastes (D003), and P and U Wastes Containing Reactive Listing Constituents (USEPA 1990).

TABLE 1 BDAT TREATMENT STANDARD FOR K044, K045, AND K047
[Nonwastewaters and Wastewaters]
(REVISED FROM NO LAND DISPOSAL)

DEACTIVATION (DEACT) AS A METHOD OF TREATMENT*

* See 40 CFR 268 Appendix VI for a list of applicable technologies that used alone or in combination can achieve this standard. See also 40 CFR 268.42 Table 1 for a description of the technologies referred to by a five letter technology code in parentheses.

REFERENCES

USEPA. 1987. U.S. Environmental Protection Agency. Generic quality assurance project plan for land disposal restrictions program (BDAT). EPA/530-SW-87-011. Washington, D.C.: U.S. Environmental Protection Agency, Office of Solid Waste.

USEPA. 1988. U.S. Environmental Protection Agency. Methodology for developing BDAT treatment standards. Washington, D.C.: U.S. Environmental Protection Agency.

USEPA. 1990. U.S. Environmental Protection Agency. Best demonstrated available technology background document for characteristic ignitable wastes (D001), characteristic corrosive wastes (D002), characteristic reactive wastes (D003), and P and U wastes containing reactive listing constituents. Washington, D.C.: U.S. Environmental Protection Agency.